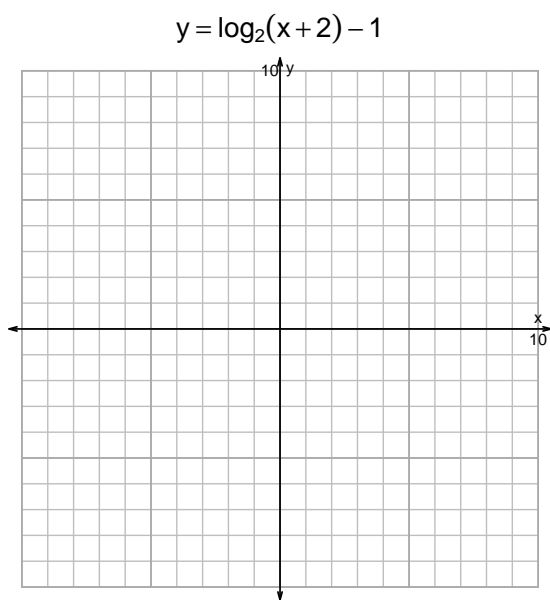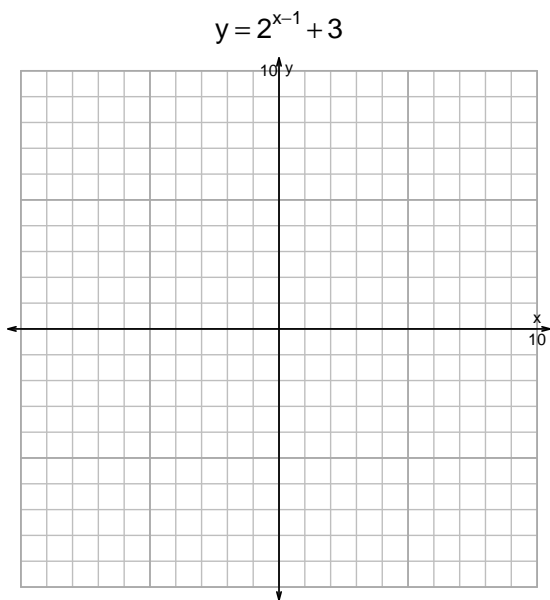Name: _____   Date: _____

s18: EXP LOG (QUIZ v357)

1. (10 pts) Graph $y = 2^{x-1} + 3$ and $y = \log_2(x+2) - 1$ on the grids below. Also, draw any asymptotes with dashed lines.
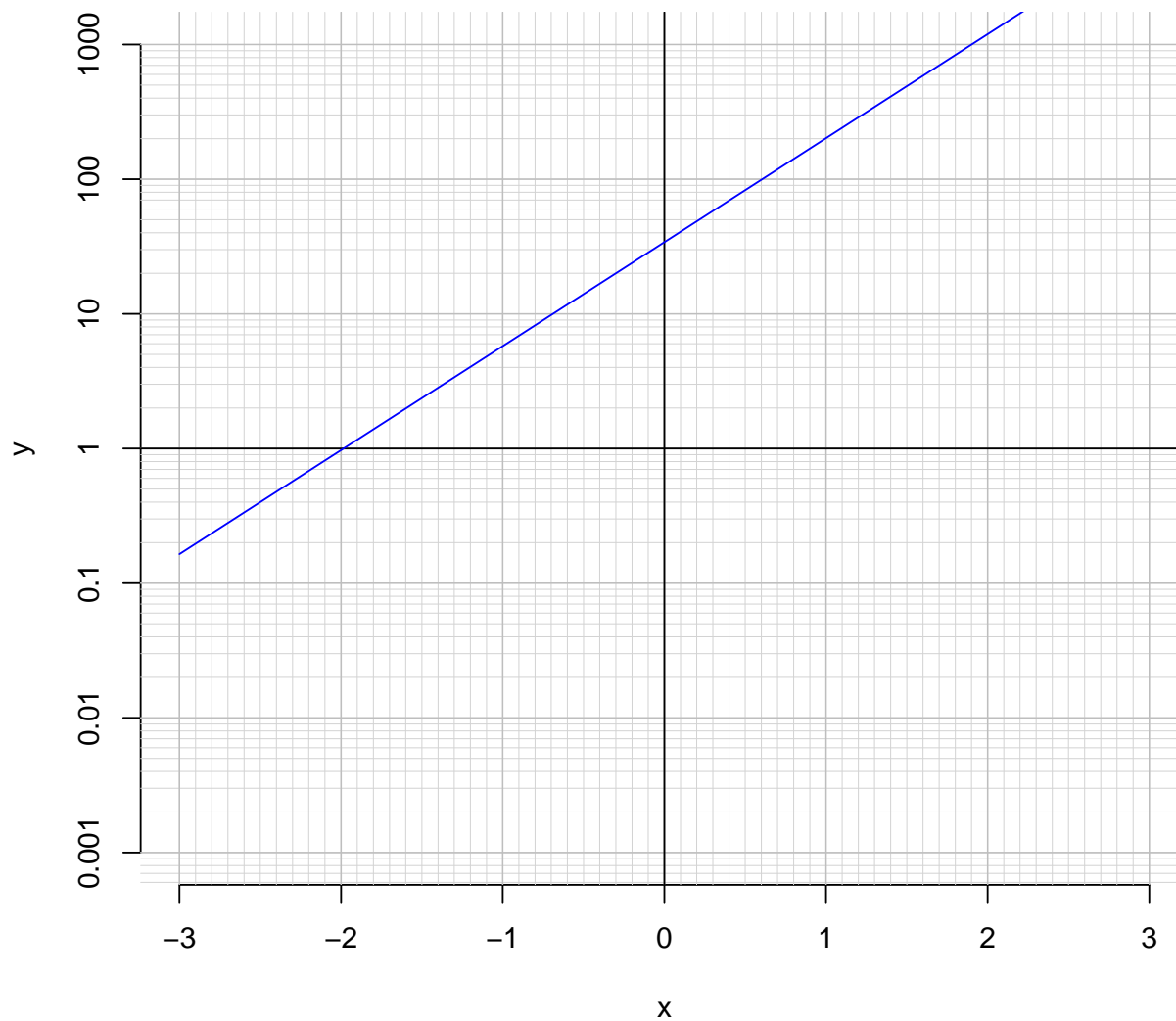
$$y = 2^{x-1} + 3$$

$$y = \log_2(x+2) - 1$$

Somewhat useful hint: $2^3 = 8$, *and thus* $\log_2(8) = 3$.

2. (10 pts) Write (but do not evaluate) the solution to the equation below by writing a logarithmic expression. Please do not do any arithmetic; just move numbers around.

$$-19 = \left(\frac{-7}{3}\right) \cdot 10^{-5t/4}$$

3. (10 pts) An exponential function $f(x) = 34.1 \cdot e^{1.78x}$ is graphed below on a semi-log plot.

a. Using the plot above, evaluate $f(1.7)$.

b. The inverse function is logarithmic.

$$f^{-1}(x) = \frac{1}{1.78} \cdot \ln\left(\frac{x}{34.1}\right)$$

Using the plot above, evaluate $f^{-1}(0.4)$.